

Appl. No. 10/667,739  
Atty. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

### REMARKS

#### Claim Amendments

Claims 1-7 and 9-14 are pending in the present application. Claim 8 has been previously canceled. No additional claims fee is believed to be due.

Claims 1 and 10-12 have been amended as shown above to recite that the respective compositions comprise a chelant "at a level of greater than 2% to about 5%". Support for this amendment can be found at page 10, line 18 to page 11, line 15 of the specification.

Claim 13 has been amended as shown above to more particularly and distinctly claim the subject matter of the invention in view of the current amendment to claim 12. Support for this amendment can be found in the original claim 13.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

#### Rejections Under 35 USC 102(b) and 103(a) Over US Patent No. 6,004,355 to Dias et al.

Claims 1-4, 6-7, 9, and 14 remain rejected under 35 USC 102(b) as being anticipated by, or, alternatively, under 35 USC 103(a) as being obvious over, US Patent No. 6,004,355 to Dias et al. ("Dias"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches a hair coloring composition comprising an oxidizing agent, conditioning agents such as silicones, and sequestrant (chelant) agents of phosphonic acid derivatives and wherein the chelant is Glycinamide-N,N'-disuccinic acid which is a monoamine monoamide-N,N'-dipolyacid comprising more than one carboxylic acid group, wherein the composition further comprises methyl cellulose as a thickener and oxidative dye precursors, wherein the composition is an aqueous solution, wherein the composition has a pH of 10, and wherein the chelants are present from 0.5% to 2%. The Examiner also asserts that Dias teaches a kit comprising an oxidizing agent and one or more coloring agents. Thus, the Examiner concludes that Dias anticipates Applicants' claims. Alternatively, the Examiner asserts that it would be obvious to one of skill in the art that the compositions of Dias would have similar physical properties as those claimed by Applicants, absent unexpected results. Applicants respectfully traverse the present rejection based on the following comments.

Appl. No. 10/667,739  
Atty. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

First, Applicants' claimed compositions are not anticipated by Dias because Dias fails to disclose with sufficient specificity each and every limitation of Applicants' claims. See MPEP 2131.03. As currently amended, Applicants' claim 1 recites a composition comprising an oxidizing agent, a conditioning agent selected from the claimed group, and a chelant, *wherein the chelant is present at a level of greater than 2% to about 5% by weight of the composition*, and wherein the composition has a pH from about 9.5 to about 11.

Applicants' compositions containing chelants at the claimed level increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which are carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel. It is believed that the chelants act to chelate environmental and intrinsic heavy metal ions which would otherwise react with the oxidizing agent to give harmful species such as free radicals which oxidize the disulfide bonds of hair in the pH range claimed by Applicants. It is further believed that non-cationic conditioning agents such as silicones deposit less efficiently on damaged hair. Therefore, the chelants, by reducing oxidative hair damage, increase the efficiency of the deposition of the conditioning agents.

In contrast, Dias discloses hair color compositions which comprise as required components a peroxygen oxidizing agent, an organic peroxyacid oxidizing aid, and oxidative hair color agents. As an optional component, Dias discloses generally that any one of a variety of heavy metal ion sequestrants (*i.e.*, chelants) may be included. However, Dias broadly discloses that the amount of chelants may range from about 0.005% to about 20%. Within this broad range, Dias specifically teaches that the level of chelants is more preferably from about 0.05% to about 2%. There is no teaching to select a range of greater than 2% to about 5% for the level of chelants. Moreover, every exemplified composition of Dias contains only 0.1% of a chelant. Thus, one of ordinary skill in the art, taking the disclosure of Dias as a whole, would not clearly envisage a composition comprising a chelant in a range of greater than 2% to about 5%.

Accordingly, Dias fails to disclose Applicants' claimed range of greater than 2% to about 5% for the level of a chelant with sufficient specificity to constitute anticipation. Therefore, each and every element of Applicants' claim 1, as well as claims 2-4, 6-7, 9,

Appl. No. 10/667,739  
Attr. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

and 14, which contain the limitations of claim 1, is not disclosed in Dias. As a result, Applicants' claims 1-4, 6-7, 9, and 14 are novel over Dias.

Second, Applicants' claims are not obvious in view of Dias because Dias fails to provide any suggestion or motivation for a composition comprising greater than 2 wt.% to about 5 wt.% of a chelant. Although Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about 0.05% to about 2%. Moreover, every example composition in Dias comprises chelant at a level of 0.1%. Thus, there is no suggestion or motivation in Dias for a composition comprising a chelant at a level of greater than 2 wt.% to about 5 wt.%.

Additionally, although Dias broadly discloses that heavy metal ion sequestrants (i.e., chelants) can be present as an optional component at a level from about 0.005% to about 20% in the compositions of Dias, Dias only exemplifies compositions containing 0.1% of a chelant. And, while Dias broadly discloses that hair conditioning agents can be added as an optional material to the compositions of Dias, none of the exemplified compositions of Dias contain a conditioning agent. As a result, Dias fails to teach or suggest that chelants, when present at Applicants' claimed level, synergistically act to increase the deposition of conditioning agents on hair.

Accordingly, Applicants' claims 1-4, 6-7, 9, and 14 are novel and nonobvious over Dias.

Alternatively, Applicants' claimed invention is not obvious in view of Dias because the compositions of the present invention possess superior and unexpected properties versus compositions comprising a level of chelant representative of the range of chelant level conventionally used in the art and comparable to that which is suggested and exemplified by Dias. Although arguments of counsel cannot take the place of factually supported objective evidence, rebuttal evidence can be presented in the specification. See *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995). "Consistent with the rule that all evidence of nonobviousness must be considered when assessing patentability, the PTO must consider comparative data in the specification in determining whether the claimed invention provides unexpected results." *In re Soni*, 54 F.3d at 750.

In the Deposition Test beginning at page 20, line 13 of the specification, Applicants have demonstrated superior and unexpected results with respect to the

Appl. No. 10/667,739  
Atty. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

deposition on hair of a typical alkoxyated amine conditioning agent, PEG-2 soyamine, for a composition representative of the claimed invention. For the Deposition Test, three bleaching compositions were prepared. Each bleaching composition comprised 1.95%  $\text{NH}_3$ , 4.5% hydrogen peroxide, and 0.23% PEG-2 soyamine. A first bleaching composition further comprised 0% EDDS, whereas a second bleaching composition further comprised 1.2% EDDS, and whereas a third bleaching composition further comprised 5% EDDS (representative of the claimed invention). Virgin hair switches were separately bleached using these compositions, and the amount of PEG-2 soyamine deposited on the hair for each switch was measured as described in the specification.

For the first composition, the amount of PEG-2 soyamine deposited (as mg of PEG-2 soyamine deposited per gram of hair) was 0.02. For the second composition, the amount of PEG-2 soyamine deposited was 0.16. For the third composition, which is representative of the claimed invention, the amount of PEG-2 soyamine deposited was 0.51. Thus, the third composition, comprising 5% EDDS, provided the deposition of about 25.5 times more PEG-2 soyamine conditioning agent as the first composition, which comprised no EDDS. Further, the third composition provided the deposition of about 3.2 times more PEG-2 soyamine conditioning agent as the second composition, which comprised 1.2% EDDS.

Applicants respectfully submit that such conditioner deposition results for the third composition, which is representative of the claimed invention, are clearly superior over the performance of the other compositions, which are representative of the range of chelant level conventionally used in the art and comparable to that which is suggested and exemplified by Dias. Therefore, Applicants' claims 1-4, 6-7, 9, and 14 are novel and nonobvious over Dias.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al. in view of US Patent No. 4,138,478 to Reese et al.

Claim 5 remains rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias") in view of US Patent No. 4,138,478 to Reese et al. ("Reese"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches hair coloring compositions, as described above, wherein the

Appl. No. 10/667,739  
Atty. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

compositions are thickened aqueous compositions. The Examiner acknowledges that Dias does not teach a hair treatment composition in the form of an oil-in-water emulsion.

The Examiner then asserts that Reese teaches a hair bleaching or dyeing composition wherein the composition is in the form of a fluid bath, dry powder, paste, cream emulsions of oil-in-water. The Examiner further asserts that Reese also teaches hair color composition which comprises an oxidizing agent and a diphosphonic compound. Thus, the Examiner concludes that it would have been obvious to one of skill in the art to formulate the composition of Dias in the form of an oil-in-water emulsion as taught by Reese because Reese describes different forms of hair treating compositions. Applicants respectfully traverse the present rejection based on the following comments.

The combination of Dias and Reese does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. See MPEP 2143.03. Applicants' claim 5 contains the limitations of claim 1. As discussed above, Applicants' claim 1, as currently amended, recites a composition comprising, *inter alia*, a chelant, *wherein the chelant is present at a level of greater than 2% to about 5% by weight of the composition*. Applicants' compositions containing chelants at the claimed levels increase the deposition of conditioning agents on hair during or after an oxidative treatment, such as bleaching or dyeing, which is carried out in the pH range claimed by Applicants. This results in longer-lasting improved hair feel.

In contrast to Applicants' claimed compositions, both Dias and Reese fail to teach or suggest a composition comprising greater than 2 wt.% to about 5 wt.% of a chelant. As discussed above, even though Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about 0.05% to about 2%. Further, every example composition in Dias comprises a chelant at a level of only 0.1%. Likewise, while Reese broadly discloses that diphosphonic compounds may be used at a level of 0.01% to 10%, Reese teaches that the preferred level is 0.1% to 2%. As in Dias, the compositions of Examples 1, 2, and 3 of Reese comprise only 0.1% of a chelant.

Additionally, and most notably, after Reese states that the preferred level is 0.1% to 2%, Reese specifically teaches that "[l]arger amounts can be used if desired . . . but *such larger amounts provide virtually no advantage*" (emphasis added). See column 3, lines 19-26 of Reese. Thus, despite the broad ranges disclosed in Dias and Reese, one of

Appl. No. 10/667,739  
Atty. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

ordinary skill in the art would not be motivated to use a chelant at a level of greater than 2% in view of Recse's specific teaching that there are no advantages in doing so.

Further, although Reese discloses that its compositions may be in the form of an emulsion, one of skill in the art would not be motivated to formulate the composition of Dias into an emulsion because the peroxyacid oxidizing aids of Dias, which are required components of the compositions of Dias, are difficult to solubilize, especially in an oil-in-water emulsion.

The combination of Dias and Reese does not establish a *prima facie* case of obviousness for Applicants' claim 5. Accordingly, Applicants' claim 5 is novel and nonobvious over the combination of Dias and Reese.

Rejections Under 35 USC 103(a) Over US Patent No. 6,004,355 to Dias et al.

Claims 10-13 remain rejected under 35 USC 103(a) as being unpatentable over US Patent No. 6,004,355 to Dias et al. ("Dias"). As set forth in the Office Action of July 14, 2004, the Examiner asserts that Dias teaches methods for coloring hair comprising the steps of applying compositions that comprise an oxidizing agent, oxidation dye precursors, conditioning agents, and chelating agents of phosphonic acid derivatives. The Examiner notes that Dias does not teach Applicants' claimed methods with sufficient specificity to constitute anticipation of the claims. However, the Examiner asserts that it would have been obvious to one of skill in the art to use the methods of Dias with a composition that comprises similar ingredients to the compositions of Dias. Applicants respectfully traverse the present rejection based on the following comments.

Dias does not teach or suggest all of Applicants' claim limitations and, therefore, does not establish a *prima facie* case of obviousness. See MPEP 2143.03. As currently amended, Applicants' claims 10-13 respectively recite a method which requires contacting hair with a composition comprising a chelant, *wherein the chelant is present at a level of greater than 2% to about 5% by weight of the respective composition*. Applicants' first compositions of claims 10 and 12 and second composition of claim 11 protect hair from damage that occurs during oxidative treatments, such as bleaching and dyeing, which are carried out in the pH range claimed by Applicants.

In contrast to Applicants' claimed methods, Dias fails to teach or suggest a method which comprises applying to hair a composition comprising greater than 2 wt.%

Appl. No. 10/667,739  
Atty. Docket No. CM2633MC  
Amdt. dated 06/14/2005  
Reply to Office Action of 12/14/2004  
Customer No. 27752

to about 5 wt.% of a chelant. As discussed above, while Dias broadly discloses that chelants may be present as an optional component at a level of about 0.005% to about 20%, Dias indicates that the preferred chelant level is from about 0.05% to about 2%. Moreover, every example composition in Dias comprises chelant at a level of 0.1%. Thus, there is no suggestion or motivation in Dias for a method which comprises applying a composition comprising chelant at a level of greater than 2 wt.% to about 5 wt.%.

Accordingly, Applicants' claims 10-13 are novel and nonobvious over Dias.

### CONCLUSION

In light of the amendments and remarks presented herein, it is requested that the Examiner reconsider and withdraw the present rejections. Early and favorable action in the case is respectfully requested.

Applicant has made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicant respectfully requests reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-7 and 9-14.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY

By Michael J. Sambrook  
Signature

Michael J. Sambrook

Typed or Printed Name

Registration No. 56,746

(513) 626-2269

Date: June 14, 2005  
Customer No. 27752